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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/535,520

02/02/2006

Abbas Razavi

F-863 (31223.00086)

9377

7590
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04/12/2007

EXAMINER

LU, C CAIXIA

ART UNIT

PAPER NUMBER

1713

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

04/12/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/535,520	RAZAVI, ABBAS	
	Examiner	Art Unit	
	Caixia Lu	1713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 22-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 22-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>8/19/05</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of catalyst complex represented by Formula (II) of claim 25 which reads on claims 22-46 in the reply filed on March 26, 2007 is acknowledged.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 46 is rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the preparation of atactic olefin polymer, does not reasonably provide enablement for the preparation of propylene polymer comprising isotactic and syndiotactic polymer blocks. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims. In general, a metallocene catalyst is for preparation of olefin polymer with atacticity, isotacticity or syndiotacticity. There is no publish literature about using a single catalyst to prepare an olefin polymer with both isotactic and syndiotactic blocks. Since the Specification has not expressly indicate which metallocene catalyst can be used to provide a propylene polymer with both isotactic and syndiotactic blocks, the instant claims is thus not enabled.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 22-46 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Throughout the claims, the term derivatives are improperly used to refer the group which is not a derivative of the group. For example a cyclopentadienyl or fluorenyl group is not a derivative of cyclopentadienyl or fluorenyl group.

In claims 24, 26-27 and 39-40, Cp¹ and Cp² defined as cyclopentadienyl or fluorenyl group lack antecedence because at least one of Cp¹ and Cp² must contains a N or P atom according to claim 22 to which those claims depended on and those hetero atom containing rings of claims 24, 26-27 and 39-40 are neither cyclopentadienyl nor fluorenyl groups.

In claims 31 and 32, the R" is defined as derivative of a selected group of compounds such as alkylene derivative, dialkyl silicon derivative, etc., however there are no supports for those derivatives in the Specification. It is also noted that the R" is exemplified in the specification as ethylene and dimethylsilanylene which are alkylene and dialkyl silicon groups respectively rather alkylene and dialkyl silicon derivatives. The examiner suggests to use the groups disclosed in the paragraph bridging pages 6 and 7 to replace those derivatives of the instant claims.

In claim 33, the substituents are defined as derivatives of a selected group of compounds such as aryl derivative, however there are no supports for those groups in the Specification. It is also noted that the substituent is exemplified in the specification

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such as phenyl and methyl groups which are aryl and alkyl groups respectively rather aryl and alkyl derivatives. The examiner suggests to use the groups disclosed in the 2nd paragraph of page 9 to replace those of the instant claims.

In claim 34, those listed groups are not derivatives of the groups listed in claim 33, thus, those listed groups lack antecedences. Furthermore, the term Me₂Si is a divalent group which cannot represent the monovalent substituent and should be replaced with Me₃Si according to the 2nd paragraph of page 9 of the specification.

Specification

6. The disclosure is objected to because of the informalities corresponding to those as indicated in the rejection under 35 U.S.C. 112, second paragraph as shown above. Appropriate correction is required.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 22-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katayama et al. (EP 0 741 145).

Katayama teaches a metallocene catalyst complex represented by Formula (I) for olefin polymerization (page 3, line 35 to page 4, line 56), the metallocene complex can be bridged or unbridged and the bridged metallocene complexes are exemplified such

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as ethylenecyclopentadienyl pyrrolyl titanium dichloride and dimethylsilylindenyl triphenylphospholyl titanium dichloride (page 5, line 34 to page 9, line 18). It is noted that Katayama does not exclude any the bridge position relative to nitrogen or phosphorus in the ring, one would have understood that all positions in nitrogen or phosphorus in the ring can be the bridging position.

Thus, it would have been obvious to a skilled artisan at the time the invention was made to employ Katayama's teaching to prepare various metallocene complexes such as those represented by Formula (II) of claim 25 and use those metallocene catalysts to conduct olefin polymerizations in search for catalysts with superior activities or stabilities or stereoregularities since such is within the scope of the Katayama's teaching and in the absence of any showing criticality and unexpected results.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Caixia Lu whose telephone number is (571) 272-1106. The examiner can normally be reached from 9:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful and the matter is urgent, the examiner's supervisor, David Wu, can be reached at (571) 272-1114. The fax numbers for the organization where this application or proceeding is assigned is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-1700.



Caixia Lu, Ph. D.
Primary Examiner